97TH CONGRESS } HOUSE OF REPRESENTATIVES { REPORT 97-
2d Session } { 349, Part III

SMALL BUSINESS INNOVATION DEVELOPMENT ACT OF 1981

MARCH 16, 1982.—Ordered to be printed

Mr. MONTGOMERY, from the Committee on Veterans' Affairs, submitted the following

REPORT

[To accompany H.R. 4326]

[Including cost estimate of the Congressional Budget Office]

The Committee on Veterans' Affairs, to whom was referred the bill (H.R. 4326) to amend the Small Business Act to strengthen the role of the small, innovative firms in federally funded research and development, and to utilize Federal research and development as a base for technological innovation to meet agency needs and to contribute to the growth and strength of the Nation's economy, having considered the same, reports favorably thereon by unanimous voice vote with amendments and recommends that the bill as amended do pass.

The amendments (stated in terms of the page and line numbers of the bill as reported by the Committee on Small Business) are as follows:

Page 13, line 6, insert "(1)" after "(f)".

Page 13, after line 24, add the following new paragraph:

> (2) In determining the amount of a Federal agency's research or research and development budget for any fiscal year for the purposes of paragraph (1), expenditures by the agency for research or research and development activities conducted by employees of the agency in or through Goverment-owned, Government-operated facilities shall be excluded.

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EXPLANATION OF PROPOSED AMENDMENT

H.R. 4326 as reported by the Committee on Small Business would require agencies having a research and development (R&D) budget in excess of $100 million a year to establish a Small Business Innovation Research Program (SBIR).

The proposed amendment would exclude all in-house research from an agency's R&D budget prior to determining eligibility for a SBIR program. As a result, the Veterans' Administration (VA) would not be required to establish such a program, since virtually all of its R&D work is conducted in-house, and not provided by outside contractors.

BACKGROUND

H.R. 4326, cited as the Small Business Innovation Development Act of 1981, was reported by the Committee on Small Business on November 20, 1981. The bill was sequentially referred to the Committees on Armed Services, Science and Technology, Energy and Commerce, and Veterans' Affairs for a period ending not later than March 1, 1982.

For various reasons, each of these committees requested an extension of time for the sequential consideration of the bill. Under clause 5, rule X, the sequential referral was extended until March 16, 1982. In addition, the bill was sequentially referred to the Committee on Foreign Affairs and to the Permanent Select Committee on Intelligence for the same time period.

As reported by the Committee on Small Business, the bill would require some twelve agencies to set aside a minimum of 3 percent of their total research and development budget for small businesses by fiscal year 1985. The set-aside would be phased in over the next four years.

According to the Committee on Small Business, in fiscal year 1981, there were twelve agencies (with aggregate research and development budgets of $34.6 billion) which met the $100 million threshhold test. Nine of these agencies spent $5 billion on basic research. The other three agencies spent less than $10 million each.

The Veterans Administration's R&D budget for the current fiscal year is approximately $128 million. About $121 million is committed to in-house research activities. These funds are used primarily to pay salaries and to buy equipment and supplies. VA contracts for outside research are very limited. This Committee is informed that in fiscal year 1981 only 37 contracts were let for research, for a total of $4.6 million. Of these, twenty-seven contracts totaling about $3.6 million were entered into with academic institutions for analysis of very technical medical related matters. Ten contracts were entered into with private individuals and firms. These contracts totaled only about $1 million.

VETERANS' ADMINISTRATION RESEARCH AND DEVELOPMENT PROGRAM

An integral part of the mission of the Veterans' Administration's Department of Medicine and Surgery is to conduct research and development in order to meet the health care needs of our Nation's veterans. The research program is a critical component of the agency's

goal for delivery of quality health care. Research and development projects are carried out at 129 VA hospitals where approximately 4,100 investigators are engaged in some 5,200 research projects.

The vast majority of appropriated funds are expended to support in-house medical research with the primary goal of the development of new and better techniques and methods of treating the disabilities and diseases of veterans, and a secondary goal of attracting well-qualified physicians and other health professionals to the VA health care system. These goals provide the VA with information to render the highest quality of medical care to all eligible veterans.

VA medical research is a unique national research program. Unlike the situation in any other Federal agencies, 80 percent of the VA investigators are clinicians whose major duty is to care for patients in the agency's medical centers and clinics. These clinician-researchers study problems of importance to the veteran population and the nation as a whole. Among other problems, these include alcoholism, schizophrenia, delayed stress disorders of Vietnam era veterans, aging and spinal cord injury/regeneration. Additional factors are injuries related to wartime experience and other prevalent health problems of veterans, such as cancer, diabetes, chronic heart disease, and chronic pulmonary disease. The medical research program of the agency also contributes to the nation's health care since most health problems of veterans are shared by non-veterans.

Hundreds of clinician-researchers have participated in the Medical Research Career Development program. This program offers exceptionally promising clinical health professionals a career progression from beginning research assignment to full careers in VA medicine and research.

The quality of research conducted by the VA has long been recognized as among the best in the country. Two VA career scientists and senior medical investigators were awarded the coveted 1977 Nobel Prize in the field of medicine. The two VA awards represent one of the few times Nobel Prizes have ever gone to scientists employed by the U.S. Government, and were the first ever to go to VA medical researchers. Dr. Rosalyn S. Yalow, VA Hospital, Bronx, New York, was awarded the prize for the development of radioimmuno-assays of peptide hormones. Dr. Andrew V. Schally, VA Hospital, New Orleans, Louisiana, and Dr. Roger Guillemin of the Salk Institute in San Diego, California, received the award "for their discoveries concerning the peptide hormone production of the brain." International and national awards and honors too numerous to mention have been given to VA researchers in recognition of their outstanding achievements in the field of medicine.

JUSTIFICATION FOR THE COMMITTEE AMENDMENT

The Subcommittee on Hospitals and Health Care, chaired by the Honorable Ronald M. Mottl, conducted a hearing on H.R. 4326 on January 27, 1982. Testimony focused on the impact of the bill as it relates to the VA's research effort. Doctor Hollis G. Boren, Assistant Chief Medical Director for Research and Development, Department of Medicine and Surgery of the Veterans' Administration, expressed his opposition to H.R. 4326, but did state for the record VA's support

of S. 881, a similar Senate-passed bill that would exempt the agency's research activities. His complete testimony appears later in this report.

Dr. John Cooper, representing the Association of American Medical Colleges, speaking for the 126 approved U.S. schools of medicine, their faculties, and more than 70 academic and professional societies, testified that he favors the exemption of in-house research from the provisions of H.R. 4326.

Mr. Michael Cardenas, the former Administrator of the Small Business Administration, testified that he favored the passage of the Senate bill, S. 881, rather than H.R. 4326.

The representative of The American Legion, Mr. John F. Sommer, stated the position of his organization as follows:

> Mr. Chairman, The American Legion is deeply concerned and questions the current adequacy of funding of Veterans' Administration medical research programs, particularly since there was a $22.4 million reduction in the FY 1982 appropriation for medical and prosthetic research.
>
> The Veterans' Administration, Department of Medicine and Surgery, can ill afford to mandatorily set aside additional moneys from the presently declining medical and prosthetic research budget for any purpose. Further dilution would only diminish the viability of this vital program, thereby weakening the entire VA medical care system.

Speaking in opposition to the bill as reported by the Committee on Small Business, the Deputy National Legislative Director of the Disabled American Veterans, Mr. Charles E. Joeckel, Jr., said:

> We must seriously question the intent of a measure which simply sets quotas for doling out federal research funds and ignores the inherent value that in-house VA research has upon the quality of care provided to veteran patients.
>
> Accordingly, on behalf of the 700,000 members of the Disabled American Veterans, we strongly urge you to recommend an exemption from the provisions of H.R. 4326 for the VA's Medical and Prosthetic Research Program when you report the measure to the full Committee on Veterans' Affairs.

Mr. James N. Magill of the Veterans of Foreign Wars made the following comments when he appeared before the Subcommittee on January 27, 1982:

> Mr. Chairman, as stated previously we support the concept of H.R. 4326; however, we question the advisability of advancing legislation that would allow intramural and/or human research to be conducted by small business.
>
> We respectfully request that this Subcommittee amend H.R. 4326 to specifically exclude the VA's intramural medical and prosthetic research program. We recognize the fact that research conducted by small business has a role in the public sector but should be confined, in this case, to extramural research and development activities.

BEST COPY AVAILABLE

This Committee agrees that the research and development program of the Veterans' Administration in-house should be exempted from the provisions of H.R. 4326 as reported by the Committee on Small Business. The program is excellent and should continue in its present form. To set aside a percentage of research funds for the SBIR would dilute, if not defeat, the intent of the Congress in authorizing this type of research program. This is most pronounced at this particular time when the VA Medical and Prosthetic Research Program sustained a reduction in excess of $22 million in its fiscal year 1982 appropriation. Some VA research and development programs have been reduced in recent years, although the appropriations have continued to increase. Between 1977 and 1981, the research budget grew only at the rate of 6.5 percent a year, below the inflation rate during the same time period.

Hearings conducted by the Subcommittee on Hospitals and Health Care during the past several years have shown that the VA cannot compete with the private sector in the remuneration provided highly qualified clinicians. The in-house research opportunities afforded them by the VA contribute greatly to recruitment and retention of physicians and other highly trained and qualified individuals. Further reductions in this program could adversely affect the agency's ability to recruit and retain physicians and other health-care personnel.

Medical and Prosthetic Research programs in biomedical research, health care services delivery, and rehabilitation research related to the physically handicapped veteran have significantly contributed to the advancement of medical care by providing new and improved therapies, techniques, prostheses, and diagnostic procedures.

OVERSIGHT FINDINGS

With reference to clause 2(1)(3)(D) of rule XI of the Rules of the House of Representatives, the Committee has not received a report from the Committee on Government Operations on the subject matter being considered.

Under the rules of the Committee on Veterans' Affairs, the Subcommittee on Hospitals and Health Care is vested with legislative and oversight jurisdiction over the research and development programs of the Veterans' Administration. As a result of its consideration of this matter, the subcommittee concluded there is ample need and justification for the enactment of this legislation as amended, and on January 27, 1982, recommended the bill as amended to the full committee.

VOTE ON THE BILL

With a quorum actually present, the motion to report the bill, as amended, was unanimously adopted by voice vote on March 10, 1982.

COST

The proposed Committee amendment will not require any Federal outlays in fiscal year 1983, or subsequent years.

BUDGET STATEMENT

As required by the Rules of the House, the following letter was received from the Congressional Budget Office concerning the cost of H.R. 4326, as amended by the Committee:

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, D.C., March 2, 1982.

Hon. G. V. MONTGOMERY,
Chairman, Committee on Veterans' Affairs,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: Pursuant to Section 403 of the Congressional Budget Act of 1974, the Congressional Budget Office has prepared the attached cost estimate for H.R. 4326, the Small Business Innovation Development Act of 1981.

H.R. 4326 would require agencies having a research and development (R&D) budget in excess of $100 million a year to establish a Small Business Innovation Research Program (SBIR). As amended by this Committee, all in-house research would be excluded from an agency's R&D budget prior to determining eligibility for an SBIR program. As a result, the Veterans' Administration (VA) would not be required to establish such a program, since virtually all of its R&D work is conducted in-house, and not provided by outside contractors.

The VA would be required, however, to establish set-aside goals for small business concerns, which the agency indicates would not result in any significant administrative cost to the VA.

Should the Committee so desire, we would be pleased to provide further details on this estimate.

Sincerely,

RAYMOND C. SCHEPPACH,
(For Alice M. Rivlin, Director).

CONGRESSIONAL BUDGET OFFICE—COST ESTIMATE

1. Bill number: H.R. 4326.
2. Bill title: Small Business Innovation Development Act of 1981.
3. Bill status: As ordered reported by the House Committee on Veterans' Affairs, March 1, 1982.
4. Bill purpose: H.R. 4326 would require several major federal departments and agencies to establish Small Business Innovation Research Programs (SBIR) by targeting specified amounts of research and development (R&D) funds to small businesses. Each federal agency whose R&D budget exceeds $100 million annually would be required to allocate a percentage of its R&D budget for the SBIR program. For purposes of determining an R&D budget, all in-house research would be excluded. The set-aside would be phased in over a four-year period, with a 0.5 percent allocation required in fiscal year 1982, 1.0 percent in fiscal year 1983, 2.0 percent in fiscal year 1984, and 3.0 percent in fiscal year 1985, and in each year thereafter. In addition, each federal agency with an R&D budget exceeding $20 million would be required to set goals for allocation of funding agreements to small businesses.

As provided in H.R. 4326, the Small Business Administration (SBA) would have responsibility for publicizing and coordinating a release schedule for SBIR solicitations, for preparing an annual report to the Congress on the status of the SBIR programs, and for monitoring the SBIR programs. The Office of Federal Procurement Policy (OFPP), in conjunction with other agencies, would be required to issue regulations affecting various SBIR activities, while the Office of Science and Technology Policy would be responsible for monitoring and oversight.

5. Cost estimate: Although H.R. 4326 does not authorize the appropriation of funds for the activities required in this bill, nonetheless certain costs, which are shown in the following table, will be incurred by federal agencies in order to implement the bill. Based on a May 1, 1982 date of enactment, it is assumed that policy guidelines will be developed in the last quarter of fiscal year 1982, but that insufficient time would be available for allocating 0.5 percent of the R&D budgets for a SBIR program. As a result, it is expected that the cost to the federal government in 1982 will not be significant.

	Dollars in Millions
Estimated authorization level:	
Fiscal year:	
1983	$19
1984	27
1985	41
1986	42
1987	44
Estimated outlays:	
Fiscal year:	
1983	10
1984	25
1985	39
1986	42
1987	43

Portions of the cost of this bill would fall within nearly all the budget functions.

6. Basis of estimate: Shown below is a projection of the federal R&D budget through 1987, based on the current 1982 funding level, as well as the estimated set-aside for the SBIR programs.

	Dollars in Millions
Estimated R&D obligations: [1]	
Fiscal year:	
1983	$31,400
1984	32,100
1985	33,600
1986	34,400
1987	35,700
Estimated set-aside:	
Fiscal year:	
1983	315
1984	640
1985	1,010
1986	1,030
1987	1,070

[1] Includes funds for only those agencies that would be required to establish a SBIR program; excludes intramural R&D.

The total estimated R&D budgets are based on estimates for those agencies that would be required to establish a SBIR program, including the Defense Department military functions; the National

Aeronautics and Space Administration; the National Science Foundation; and the Departments of Health and Human Services, Agriculture, Energy, Interior, Transportation, and Commerce. It also includes R&D estimates for the Environmental Protection Agency, the Nuclear Regulatory Commission, and the Agency for International Development.

For purposes of this estimate, the current 1982 funding level was assumed as a base. 1983 through 1987 R&D obligations were projected on a current policy basis, using defense and nondefense inflators consistent with CBO's current economic assumptions. The estimated set-aside for the SBIR programs was based on the formula specified in the bill.

Assuming a date of enactment on or around the beginning of May 1, 1982, it is estimated that agencies would not begin obligating funds for Phase I of their SBIR program until the beginning of fiscal year 1983.

Since guidelines of the SBIR programs are not specified in the bill, but rather would be developed in the first 120 days following enactment, it is not totally clear at this time how the SBIR program would operate within each agency. Based on information supplied by the agencies, it was assumed that most agencies would develop programs similar to that currently operated by the National Science Foundation.

Assuming this model, each agency would establish a separate SBIR office, with responsibility for coordination and implementation of the SBIR activities. This staff would work with agency personnel to determine the appropriate R&D categories for solicitations, develop and coordinate with SBA the release schedules, and report annually to SBA on the status of the program. In addition, agency personnel would be required to receive and evaluate proposals, select recipients, and administer funding agreements—which would involve conducting negotiations, awarding contracts, making payments based on contract progress, and monitoring and tracking the program records. It was also assumed that agencies would need to reprogram their current tracking systems over the next two years, since the data necessary for the bill's reporting requirements are not uniformly available.

Based on these assumptions, it is estimated that the total outlays in those agencies required by the bill to establish a SBIR program would be approximately $10 million in fiscal year 1983, $25 million in fiscal year 1984, $39 million in fiscal year 1985, and $42 million in fiscal year 1986, and $43 million in fiscal year 1987. These costs, although not authorized by the bill, represent the incremental costs to the agencies to implement a SBIR program. They assume that each year an additional phase will be operational, so that by fiscal year 1985 all three phases of the SBIR program would be established.

It is very difficult to precisely measure the incremental costs at this time, however. The number and size of the awards, relative to current law, have a significant effect upon the administrative costs of the bill. For example, if, under current law, an agency would have awarded one $5 million contract, but as a result of H.R. 4326 would now award 100 contracts for $50,000 each, additional resources would be required to manage and monitor these additional contracts. It is expected that guidelines will be developed and agencies will implement SBIR pro-

grams that satisfy the intent of the bill, as well as minimize the administrative burden to the agencies and small businesses.

In addition to the cost of the SBIR programs within these agencies, it is estimated that approximately $0.7 million in fiscal year 1983 and $0.8 million in each fiscal year thereafter will be required by those federal agencies that have responsibility for issuing policy directives, coordinating, monitoring, and reporting to the Congress. This assumes that the Office of Science and Technology Policy will simply review agency reports and not conduct independent audits in order to fulfill its oversight mandate, but that SBA will conduct audits from seven field offices.

Finally, while it is not possible to estimate their impact, two additional factors could affect the long-term cost of the bill. Some studies suggest that small firms make a significant contribution to innovations, and that the cost per R&D scientist is less in a smaller firm. If this is true, some savings may be obtained in the long-term by directing more R&D spending to small businesses. On the other hand, in some areas only a few small firms might be qualified to perform the work, and lack of competition could result in higher costs.

7. Estimate comparison: None.

8. Previous CBO estimate: On September 24, 1981, the CBO prepared a cost estimate for S. 881, as ordered reported by the Senate Select Committee on Small Business. The estimated R&D budget in S. 881 also excluded in-house research, but specified lower percentage amounts for set-asides and applied to fewer agencies; consequently, the estimated costs of S. 881 were lower in each fiscal year.

On October 30, 1981, the CBO prepared a cost estimate of H.R. 4326, as ordered reported by the House Committee on Small Business on October 22, 1981. The total R&D budgets in each fiscal year would be greater than that in this version of H.R. 4326 because in-house research was not excluded. As a result, both the amount of the set-aside as well as the administrative costs were greater in the House Small Business Committee version of H.R. 4326.

9. Estimate prepared by: Mary Maginniss.

10. Estimate approved by:

C. G. NUCKOLS,
(For James L. Blum, Assistant Director for Budget Analysis).

INFLATIONARY IMPACT STATEMENT

The enactment of the proposed amendment will have no inflationary impact.

AGENCY VIEWS

The Veterans' Administration presented its views on H.R. 4326 at the hearing conducted by the Subcommittee on Hospitals and Health Care on January 27, 1982. There follows the statement of Dr. Hollis G. Boren, Assistant Chief Medical Director for Research and Development of the Department of Medicine and Surgery:

"MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE: I appreciate this opportunity to testify before the Subcommittee regarding the Veterans' Administration's views on H.R. 4326, the 'Small Business Innovation Development Act of 1981'.

"Mr. Chairman, the Senate has passed a bill, S. 881, which the VA supports with a similar purpose to H.R. 4326. Since most VA research and development projects are conducted in-house, S. 881 would not adversely affect the VA's research program since the Senate formula exempts in-house research. For this agency, the Senate bill would require the research and development program to establish set-aside goals for small businesses that would continue existing levels of contracting with small business concerns. Additional goals would not be required until total research and development expenditures reached a total of $300 million in a fiscal year.

"Within the Veterans' Administration Department of Medicine and Surgery, research and development is conducted in support of the mission to provide for the health care needs of veterans. In fiscal year 1982, approximately $128 million was appropriated for the conduct of research and development at 129 Veterans' Administration hospitals where approximately 4,100 investigators are engaged in some 5,200 research projects.

"H.R. 4326 would require agencies having research and development budgets, including money expended for intramural research, in excess of $100 million a year to establish a small business set-aside research program. This set-aside would be from existing appropriations and for the VA could amount to as much as $3.5 million in the third year following enactment of this bill. Mr. Chairman, there are several reasons why this legislation would be detrimental to the VA's research and development programs and why the Veterans' Administration strongly opposes enactment of H.R. 4326.

"The VA conducts the preponderance of its research and development projects as an intramural effort by utilizing clinical investigators employed at least five-eighths of their time by the VA within its VA medical centers. A unique aspect of high-quality research by VA health care providers, in contrast to extramural investigators, is that VA health care providers are intimately involved in veteran patient care. As such, they have demonstrated a very special commitment to quality medical care for the veteran patient. The natural result of this commitment is the desire to improve veteran patient care through an active involvement in research and development.

"The establishment of a dollar goal based on total research expenditures, including intramural research, would artificially inflate the amount to be set-aside for a SBIR program by the VA. This would result in a greater percentage of the VA's already constrained research and development budget being set-aside than is actually available for contracting purposes.

"H.R. 4326 would also result in a reduction of availability of funding for clinician-researchers in VA medical centers. As a result of the need to reduce federal expenditures, the FY 1982 levels of appropriations and FTEE have already been reduced below the FY 1981 levels. Consequently, on the basis of an analysis of priorities, we are currently unable to fund all scientific proposals by VA health care providers which have been judged scientifically meritorious by a national peer review process. A further reduction in available moneys for intramural research would mean that high-quality research by VA clinician-researchers would, of necessity, go unfunded.

"In accordance with agency procedures, a decision by the VA to pursue a research and development project is made on the basis of a merit process which each research proposal must undergo prior to approval. Projects proposed for funding are reviewed by national VA merit review boards. The boards review and prioritize each proposal for scientific merit and relevance to the health problems of veteran patients. Placing additional requirements on our program would probably have the effect of removing a percentage of our research effort from this competitive process. In the area of medical research that is directed at specific health problems we believe that scientific merit, relevance and productivity should be the only factors considered in competing for scarce research resources.

"For the reasons which have been enumerated in this presentation, the VA favors the enactment of the Senate version of the bill, S. 881, rather than the enactment of H.R. 4326."

CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

In compliance with clause 3 of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

SMALL BUSINESS ACT

* * * * * * *

SEC. 9. (a) Research and development are major factors in the growth and progress of industry and the national economy. The expense of carrying on research and development programs is beyond the means of many small-business concerns, and such concerns are handicapped in obtaining the benefits of research and development programs conducted at Government expense. These small-business concerns are thereby placed at a competitive disadvantage. This weakens the competitive free enterprise system and prevents the orderly development of the national economy. It is the policy of the Congress that assistance be given to small-business concerns to enable them to undertake and to obtain the benefits of research and development in order to maintain and strengthen the competitive free enterprise system and the national economy.

(b) It shall be the duty of the Administration, and it is hereby empowered—

(1) to assist small-business concerns to obtain Government contracts for research and development;

(2) to assist small-business concerns to obtain the benefits of research and development performed under Government contracts or at Government expense; [and]

(3) to provide technical assistance to small-business concerns to accomplish the purposes of this section[.]; *and*

(4) to develop and maintain a source file and an information program to assure each qualified and interested small business concern the opportunity to participate in Federal agency small business innovation research programs;

(5) to coordinate with participating agencies a schedule for release of SBIR solicitations, and to prepare a master release schedule so as to maximize small businesses' opportunities to respond to solicitations;

(6) to independently survey and monitor the operation of SBIR programs within participating Federal agencies; and

(7) to report not less than annually to the Committee on Small Business of the Senate and the Committee on Small Business of the House of Representatives on the SBIR programs of the Federal agencies and the Administration's information and monitoring efforts related to the SBIR programs.

(c) The Administration is authorized to consult and cooperate with all Government agencies and to make studies and recommendations to such agencies, and such agencies are authorized and di-

rected to cooperate with the Administration in order to carry out and to accomplish the purposes of this section.

(d)(1) The Administrator is authorized to consult with representatives of small-business concerns with a view to assisting and encouraging such firms to undertake joint programs for research and development carried out through such corporate or other mechanism as may be most appropriate for the purpose. Such joint programs may, among other things, include the following purposes:

(A) to construct, acquire, or establish laboratories and other facilities for the conduct of research;

(B) to undertake and utilize applied research;

(C) to collect research information related to a particular industry and disseminate it to participating members;

(D) to conduct applied research on a protected, proprietary, and contractual basis with member or nonmember firms, Government agencies, and others;

(E) to prosecute applications for patents and render patent services for participating members; and

(F) to negotiate and grant licenses under patents held under the joint program, and to establish corporations designed to exploit particular patents obtained by it.

(2) The Administrator may, after consultation with the Attorney General and the Chairman of the Federal Trade Commission, and with the prior written approval of the Attorney General, approve any agreement between small-business firms providing for a joint program of research and development, if the Administrator finds that the joint program proposed will maintain and strengthen the free enterprise system and the economy of the Nation. The Administrator or the Attorney General may at any time withdraw his approval of the agreement and the joint program of research and development covered thereby, if he finds that the agreement or the joint program carried on under it is no longer in the best interests of the competitive free enterprise system and the economy of the Nation. A copy of the statement of any such finding and approval intended to be within the coverage of this subsection, and a copy of any modification or withdrawal of approval, shall be published in the Federal Register. The authority conferred by this subsection on the Administrator shall not be delegated by him.

(3) No act or omission to act pursuant to and within the scope of any joint program for research and development, under an agreement approved by the Administrator under this subsection, shall be construed to be within the prohibitions of the antitrust laws or the Federal Trade Commission Act. Upon publication in the Federal Register of the notice of withdrawal of his approval of the agreement granted under this subsection, either by the Administrator or by the Attorney General, the provisions of this subsection shall not apply to any subsequent act or omission to act by reason of such agreement or approval.

(e) For the purpose of this section—

(1) the term "Federal agency" means an executive agency as defined in section 105 of title 5, United States Code, or a military department as defined in section 102 of such title;

(2) the term "funding agreement" means any contract, grant, or cooperative agreement entered into between any Federal

agency and any small business for the performance of experimental, developmental, or research work funded in whole or in part by the Federal Government;

(3) the term "Small Business Innovation Research Program" or "SBIR" means a program under which a portion of a Federal agency's research or research and development effort is reserved for award to small business concerns through a uniform process having—

(A) a first phase for determining, insofar as possible, the scientific and technical merit and feasibility of ideas submitted pursuant to SBIR program solicitations;

(B) a second phase to further develop the proposed ideas to meet the particular program needs, the awarding of which shall take into consideration the scientific and technical merit and feasibility evidenced by the first phase and, where two or more proposals are evaluated as being of approximately equal scientific and technical merit and feasibility, special consideration shall be given to those proposals that have demonstrated third phase, non-Federal capital commitments; and

(C) where appropriate, a third phase in which non-Federal capital pursues commercial applications of the research or research and development and which may also involve follow-on production contracts with a Federal agency for products or processes intended for use by the United States Government; and

(4) the term "research" or "research and development" means any activity which is (A) a systematic, intensive study directed toward greater knowledge or understanding of the subject studied; (B) a systematic study directed specifically toward applying new knowledge to meet a recognized need; or (C) a systematic application of knowledge toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements.

(f)(1) Each Federal agency which has a research or research and development budget in excess of $100,000,000 for fiscal year 1982, or any fiscal year thereafter, shall expend not less than 0.5 per centum of such budget in fiscal year 1982 or in such subsequent fiscal year as the agency has such budget, not less than 1 per centum of such budget in the second fiscal year thereafter, not less than 2 per centum of such budget in the third fiscal year thereafter, and not less than 3 per centum of such budget in all subsequent fiscal years with small business concerns specifically in connection with a small business innovation research program which meets the requirements of the Small Business Innovation Development Act of 1981 and regulations issued thereunder. Funding agreements with small business concerns for research or research and development which result from competitive or single source selections other than under a small business innovation research program shall not be counted as meeting any portion of the percentage requirements of this section.

(2) In determining the amount of a Federal agency's research or research and development budget for any fiscal year for the purposes of paragraph (1), expenditures by the agency for research or research

and development activities conducted by employees of the agency in or through Government-owned, Government-operated facilities shall be excluded.

(g) Each Federal agency required by subsection (f) to establish a small business innovation research program shall, in accordance with this Act and regulations issued hereunder—

(1) unilaterally determine categories of projects to be in its SBIR program;

(2) issue small business innovation research solicitations in accordance with a scheduled determined cooperatively with the Small Business Administration;

(3) unilaterally receive and evaluate proposals resulting from SBIR proposals;

(4) unilaterally select awardees for its SBIR funding agreements;

(5) administer its own SBIR funding agreements (or delegate such administration to another agency);

(6) make payments to recipients of SBIR funding agreements on the basis of progress toward or completion of the funding agreement requirements; and

(7) make an annual report on the SBIR program to the Small Business Administration and the Office of Science and Technology Policy.

(h) In addition to the requirements of subsection (f), each Federal agency which has a budget for research or research and development in excess of $20,000,000 for any fiscal year beginning with fiscal year 1982 or subsequent fiscal year shall establish goals specifically for funding agreements for research or research and development to small business concerns, and no goal established under this subsection shall be less than the percentage of the agency's research or research and development budget expended under funding agreements with small business concerns in the immediately preceding fiscal year.

(i) Each Federal agency required by this section to have an SBIR program or to establish goals shall report annually to the Small Business Administration the number of awards pursuant to grants, contracts, or cooperative agreements over $10,000 in amount and the dollar value of all such awards, identifying SBIR awards and comparing the number and amount of such awards with awards to other than small business concerns.

(j) The Small Business Administration, after consultation with the Administrator of the Office of Federal Procurement Policy, the Director of the Office of Science and Technology Policy, and the Intergovernmental Affairs Division of the Office of Management and Budget, shall, within one hundred and twenty days of the enactment of the Small Business Innovation Development Act of 1981, issue policy directives for the general conduct of the SBIR programs within the Federal Government, including providing for—

(1) simplified, standardized, and timely SBIR solicitations;

(2) a simplified, standardized funding process which provides for (A) the timely receipt and review of proposals; (B) outside peer review for at least phase two proposals; (C) protection of proprietary information provided in proposals; (D) selection of awardees; (E) retention of rights in data generated in the per-

formance of the contract by the small business concern; (F) transfer of title to property provided by the agency to the small business concern if such a transfer would be more cost effective than recovery of the property by the agency; (G) cost sharing; and (H) cost principles and payment schedules;

(3) exemptions from the regulations under paragraph (2) if national security or intelligence functions clearly would be jeopardized;

(4) minimizing regulatory burden associated with participation in the SBIR program for the small business concern which will stimulate the cost-effective conduct of Federal research and development and the likelihood of commercialization of the results of research and development conducted under the SBIR program; and

(5) simplified, standardized, and timely annual report on the SBIR program to the Small Business Administration and the Office of Science and Technology Policy.

(k) The Director of the Office of Science and Technology Policy, in consultation with the Federal Coordinating Council for Science, Engineering and Research, shall, in addition to such other responsibilities imposed upon him by the Small Business Innovation Development Act of 1981—

(1) independently survey and monitor all phases of the implementation and operation of SBIR programs within agencies required to established an SBIR program, including compliance with the expenditures of funds according to the requirements of subsection (f) of this section; and

(2) report not less than annually, and at such other times as the Director may deem appropriate, to the Committees on Small Business of the Senate and the House of Representatives on all phases of the implementation and operation of SBIR programs within agencies required to establish an SBIR program, together with such recommendations as the Director may deem appropriate.

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